

Application No.: 10/709,723

Docket No.: 22171-00016-US1

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application:

**LISTING OF CLAIMS:**

1. (Previously presented) A probe device for electrically testing an integrated circuit device, the probe device comprising:

an insulative body including at least one opening;

at least one supporter positioned inside the at least one opening of the insulative body, wherein the supporter comprises a helical spring with a spiral coil extending substantially in a same plane;

a probe positioned substantially at a center of the supporter, wherein the probe is arranged to electrically connect to a pad of the integrated circuit device during testing; and

a conductive wire positioned in the insulative body and electrically connected to the supporter.

2. (Currently amended) The probe device of Claim 1, further comprising two supporters positioned substantially in parallel with each other inside the at least one opening of the insulative body.

3. (Canceled).

4. (Canceled)

5. (Canceled).

6. (Canceled).

7. (Canceled).

Application No.: 10/709,723

Docket No.: 22171-00016-US1

8. (Canceled).
9. (Canceled).
10. (Canceled).
11. (Canceled).
12. (Previously presented) A probe card for electrically testing an integrated circuit device, the probe card comprising:
  - a circuit board having at least one test-connecting site;
  - a probe head having a plurality of probe devices arranged to electrically connect to pads of the integrated circuit device when testing,
  - wherein each of the probe devices comprises:
    - an insulative body including at least one opening;
    - at least one supporter positioned inside the at least one opening of the insulative body, wherein the supporter comprises a helical spring with a spiral coil extending substantially in a same plane;
    - a probe positioned substantially at a center of the supporter;
    - a conductive wire positioned in the insulative body and electrically connected to the supporter; and
  - an interface board, comprising:
    - at least one first signal-connecting site positioned on an upper surface of the interface board for electrically connecting the test-connecting site of the circuit board; and
    - at least one second signal-connecting site positioned on a bottom surface of the interface board for electrically connecting the conductive wire of the probe head.
13. (Canceled).
14. (Canceled).

Application No.: 10/709,723

Docket No.: 22171-00016-US1

15. (Canceled).
16. (Canceled).
17. (Canceled).
18. (Canceled).
19. (Canceled).
20. (Canceled).
21. (Canceled).
22. (Canceled).
23. (Canceled).
24. (Canceled).
25. (Previously presented) A probe card for electrically testing an integrated circuit device, the probe card comprising:
  - a circuit board, comprising:
  - a plurality of test-connecting sites; and
  - a plurality of conductive paths for connecting the test-connecting sites to the bottom surface of the circuit board; and
  - a probe head comprising a plurality of probe devices, wherein each of the plurality of probe devices comprises:
    - an insulative body including at least one opening;
    - at least one supporter positioned inside the at least one opening of the insulative body,

Application No.: 10/709,723

Docket No.: 22171-00016-US1

wherein the supporter comprises a helical spring having a spiral coil extending substantially in a same plane;

a probe positioned substantially at a center of the supporter; and

a conductive wire positioned in the insulative body and electrically connected to the supporter and an associated conductive path of the circuit board.

26. (Canceled).

27. (Canceled).

28. (Canceled).

29. (Canceled).

30. (Canceled).

31. (Canceled).

32. (Canceled).

33. (Canceled).

34. (Canceled).

35. (Canceled).

36. (Canceled).

37. (Canceled).

38. (Previously Presented) The probe device of Claim 1, wherein the probe and the supporter each comprise a material selected from the group consisting of copper, nickel, cobalt,

Application No.: 10/709,723

Docket No.: 22171-00016-US1

tin, boron, phosphorous, chromium, tungsten, molybdenum, bismuth, indium, cesium, antimony, gold, silver, rhodium, palladium, platinum, ruthenium and their alloys.

39. (Canceled).

40. (Canceled).

41. (Currently Amended) The probe card of Claim 12, wherein each of the plurality of probe devices comprises two supporters positioned substantially in parallel with each other inside the at least one opening of the insulative body.

42. (Canceled).

43. (Canceled).

44. (Currently amended) The probe card of Claim 25, wherein the probe device comprises two supporters positioned substantially in parallel with each other inside the at least one opening of the insulative body.

45. (Canceled).

46. (Canceled).

47. (New) The probe device of Claim 1, wherein the at least one opening is hexagonal.

48. (New) The probe card of Claim 12, wherein the probe and the supporter each comprises a material selected from the group consisting of copper, nickel, cobalt, tin, boron, phosphorous, chromium, tungsten, molybdenum, bismuth, indium, cesium, antimony, gold, silver, rhodium, palladium, platinum, ruthenium and their alloys.

Application No.: 10/709,723

Docket No.: 22171-00016-US1

49. (New) The probe card of Claim 12, wherein the at least one opening is hexagonal.

50. (New) The probe card of Claim 25, wherein the probe and the supporter each comprises a material selected from the group consisting of copper, nickel, cobalt, tin, boron, phosphorous, chromium, tungsten, molybdenum, bismuth, indium, cesium, antimony, gold, silver, rhodium, palladium, platinum, ruthenium and their alloys.

51. (New) The probe card of Claim 25, wherein the at least one opening is hexagonal.